than those of a corresponding layer in some adjacent region; and in some cases the frequency is not given. All these omissions have been supplied as accurately as possible."

The average number of cells in a column one centimeter square through the cortex was found for various places in each region, and this number varied between 29,880 in the sunken part of the temporal lobe and 76,615 in the exposed part of the occipital lobe. Donaldson's estimation of 2,352 sq. cm. as the total area of the cortex was employed, apportioned as follows: Frontal lobe, 41 per cent.; parietal, 21 per cent.; temporal, 27 per cent.; occipital, 10 per cent., and the island 1 per cent.

Without going into the elaborate and mathematically correct details or reporting any of the numerous tables of statistical results, we may here state Miss Thompson's estimate of the functional cortical nerve-cells in man as about *9,200 millions* (about 0.23 per cent. of the number of cells by Francke's estimation in the whole human body).

The second part of the present research considers, as its product, that only 1.37 per cent. of the total volume of the cortex is made up of functional nerve-cell bodies.

The third and last portion of the paper makes an estimation of the cortical giant cells, and presents the number as about 159,690, while the pyramidal fibers for the limbs and trunks combined are about 158,222. As the difference (only about 1,500) is not large enough a number for the pyramidal fibers supplying the head and neck, it is concluded by the researches that these latter fibers take rise in other cells located in the cortex, probably in the large pyramidal cells in the fifth layer of the lower part of the motor region. G. V. N. Dearborn.

PATHOLOGY.

117 Les arthropathies tabétiques et la radiographie (The Tabetic Arthropathies and Radiography). Gibert (Nouvelle Iconographie de la Salpêtrière, 13, 1900, p. 145).

A paper having for its purpose, by means of radiographs, the explanation of cerain anatomical details of tabetic arthropathies. The observations were made upon four cases: 1. An osteo-arthropathy of the right thigh and exostosis of the right femur. 2. Osteo-arthropathy of the right knee. 3. Arthropathy of the femur, with involvement of the hip joint. 4. Osteo-arthropathy of the left knee. The radiographs are included in the article. The following facts are noted as the result of these observations: The chief anatomical fact to be considered is the disappearance or the deformation of the contiguous articular surfaces, together with an hyperplasia of the adjoining osseous parts. The deformation is caused sometimes by the flattening of the normally rounded head; at other times by the disappearance of the articular cavity; sometimes the articulation disappears in the midst of the new formation; at other times the articular ends preserve their morphological integrity and the new bone formation is formed round about the articulations. Osteophytes may be produced far from the joint involved, often upon the neighboring bone. Lastly, there is another mode of formation which has not yet been described. It is not by a progressive and continuous increase of the epiphyses, but by the formation of osteophytes in the periarticular surfaces. We are further justified in believing that a trophic form of tabes exists, and that there is in the cord a trophic center. The exact location of this is at present unknown. The excitation of this center has as the result an osseous hyperplasia, whereas a cause acting in an inverse way results in an osteo-articular atrophy. Owing to the relation which seems to exist between sensory and trophic symptoms, as was first brought out by Grasset, there is reason to suppose that this center is to be found in the neighborhood of the sensory center, somewhere in the medullary territory. SCHWAB.

118 SARCOM DES III VENTRIKELS MIT METASTASEN IM IV VENTRIKEL (Sarcoma of the Third Ventricle, with Metastases in the Fourth). E. Meyer (Archiv. für Psych., XXXII, 1899, p. 320).

The clinical symptoms were cephalalgia, vomiting, optic neuritis, The psychical condition resembled that described by Korsakoff. The autopsy showed a tumor of sarcomatous nature filling the third ventricle, which was not adherent to the walls. In the fourth ventricle there were found two small masses the size of a pea of the same microscopical character as the tumor in the third ventricle. Meyer believes that these were metastatic growths following the course of the cerebro-spinal fluids. JELLIFFE.

119 ANÉURYSME DE L'ARTÈRE VERTÉBRALE GAUCHE (Aneurism of the Left Vertebral Artery). Autopsy. P. Ladame and C. von Monakow. (Nouvelle Iconographie de la Salpêtrière, January and February, 1900, 13th Year, No. 1).

Most cases of aneurysms at the base of the brain have no clinical significance whatever. They are generally accidentally discovered post-mortem, and have often merely a medico-legal interest. A short résumé of the case to which this article relates is as follows: A man, 68 years old, syphilitically infected in his thirtieth year; the present disease began to manifest itself in his sixtieth year by violent attacks of vertigo and of angina pectoris. Two years afterwards an apoplectic seizure followed an attack of vertigo more severe than any he had yet experienced. As the result of this his gait became distinctly cerebellar in character. Shortly after his speech became dysarthritic and he had attacks of dyspnea. The cerebellar ataxia was present on both sides, possibly a little more pronounced on the right. Death followed in a condition of stupor with Cheyne-Stokes breathing; towards the end he had difficulty in deglutition. Autopsy: The basal arteries were very tortuous; at the juncture of the basilar and the vertebral arteries on the left side an aneurysm about the size of a pigeon's egg was found. The structures around the aneurysm showed evidence of compression. The sixth pair of nerves was the only one which showed an effect from the aneurysm in the sense of a pressure atrophy. Some of the important facts brought out by the microscopic examination are the following: Medulla: The left pyramid was markedly atrophied in its entire course, showed a great decrease in volume, and presented a typical picture of compression atrophy. The left olive was also atrophied, both in the fibers surrounding it and in the nerve cells comprising it. The right corpus restiforme showed considerably atrophy. This was due possibly to the necrotic condition of the compressed left olivary body. An ascending degeneration similar to this has not as yet been described. The study of sections of the medulla and cord lower down showed changes on the left side which at times had the character of pressure atrophy, at times of secondary degeneration. The hypoglossus nucleus on both sides was found to be normal. The nuclei of the cranial nerves were for the most part normal, with the exception of a slight asymmetry in the two sides of the descending root of the trigeminal and of the left acoustic tubercle. The corpora restiformia presented singular appearances, in addition to